

WHAT IS CLAIMED IS:

1. A fabrication method for an electron source substrate comprises:

a measurement step wherein at least one of

a substrate having a plurality of pairs of electrodes on the surface thereof, and

measurement means for measuring the position of said substrate in at least one direction of the X, Y, and Z directions of the substrate which are mutually orthogonal,

is scanned relatively in one direction, thereby measuring the substrate position;

a control step for controlling the discharge position of droplets to said substrate from an ink-jet head for discharging droplets containing electroconductive thin-film material, based on the results of said measurement step; and

a discharge step for discharging droplets containing electroconductive thin-film material from said ink-jet head to between pairs of electrodes on the surface of said substrate while relatively scanning at least one of said ink-jet head and said substrate in one direction;

wherein the scanning direction in said measurement step and the scanning direction in said discharge step are generally parallel;

and wherein said measurement step and said discharge

step are performed in a single scan.

2. A fabrication method for an electron source substrate according to Claim 1, wherein said measurement means and said ink-jet head are integrally formed.

3. A fabrication method for an electron source substrate according to Claim 2, wherein said measurement means and said ink-jet head are disposed in parallel to the scanning direction in said measurement step or said discharge step.

4. A fabrication method for an electron source substrate according to Claim 2, wherein said measurement means and said ink-jet head are disposed orthogonal to the scanning direction in said measurement step or said discharge step.

5. A fabrication method for an electron source substrate according to Claim 1, wherein said discharge timing of droplets from said ink-jet head is controlled in said control step.

6. A fabrication method for an electron source substrate according to Claim 1, wherein the scanning

direction of the at least one of said ink-jet head and said substrate being relatively scanned is in one direction controlled in said control step.

7. A fabrication method for an electron source substrate according to Claim 1, further comprising a preliminary discharge step for performing preliminary discharge or droplets from said ink-jet head, before said discharge step.

8. A fabrication method for an electron source substrate according to Claim 1, wherein said electron source is configured of surface-conduction emission devices.

9. A fabrication method for an electron source substrate according to Claim 8, further comprising a forming step for performing energization forming on an electroconductive thin film formed by droplets provided by said discharge step.